

FIG. 1

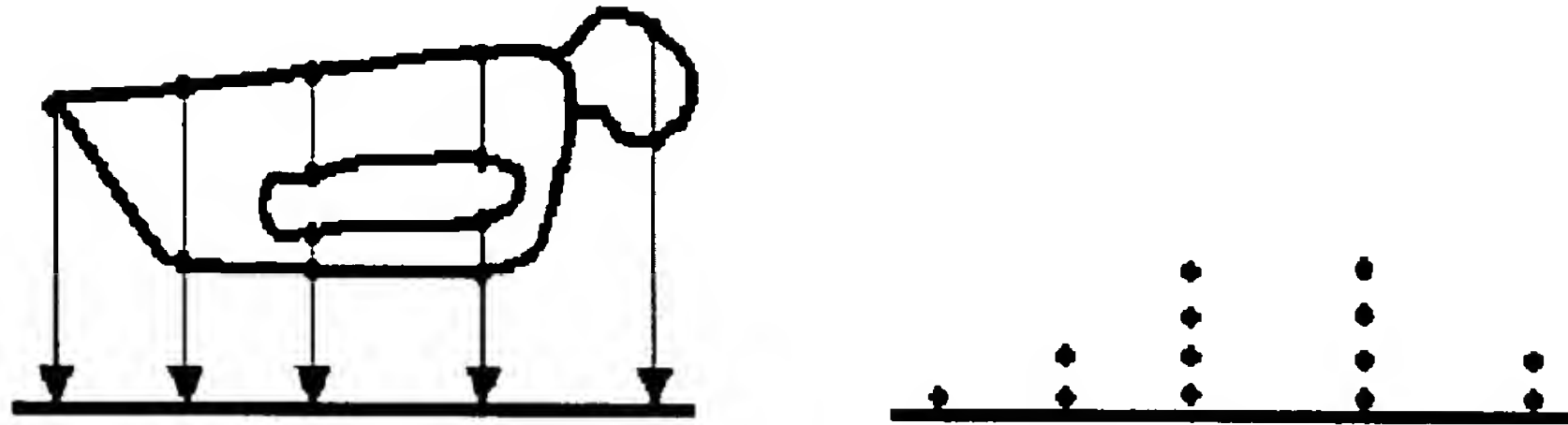


FIG. 2

```

PointTexture {
  field  SFInt32  width      512
  field  SFInt32  height    512
  field  MFInt32  depth      []
  field  MFColor  color      []
  field  SFInt32  depthNbBits 8
}

```

↓

to be compressed

FIG. 3A

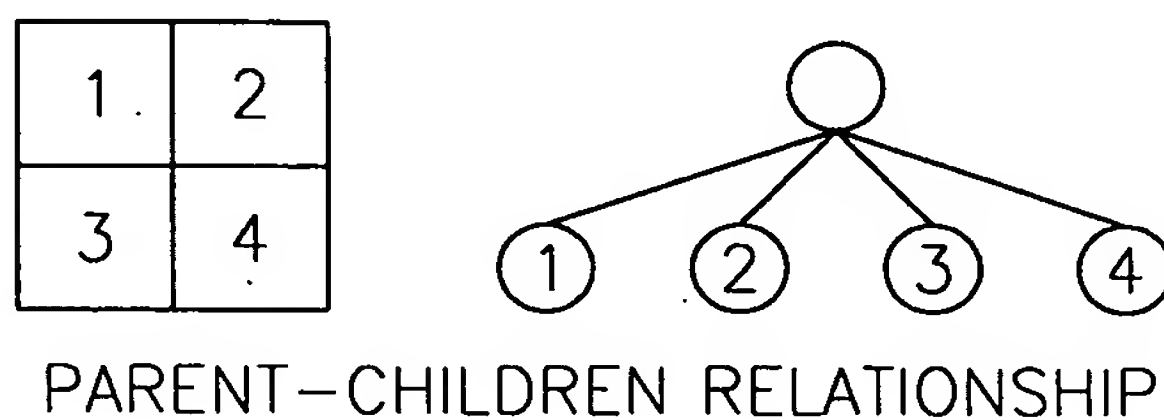
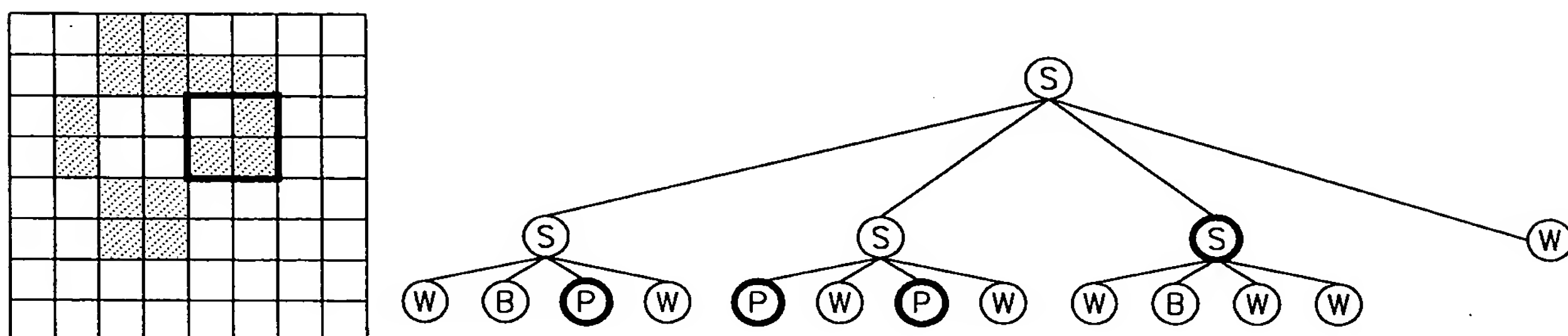
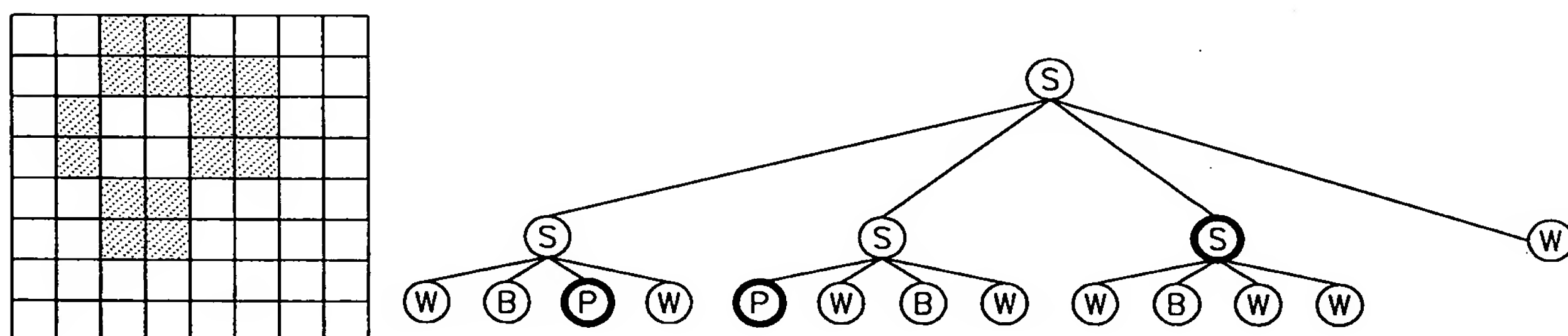


FIG. 3B



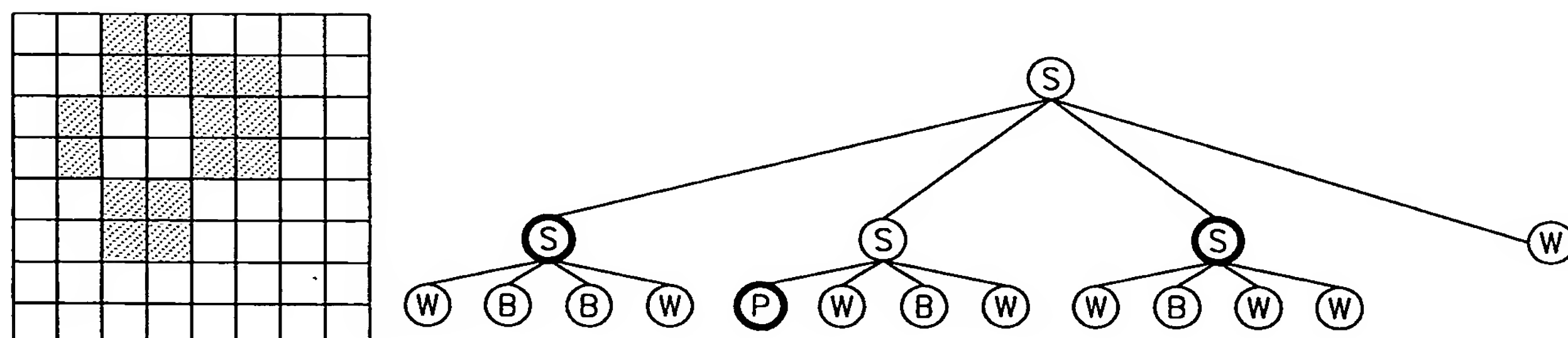
ORIGINAL MODEL AND ITS CORRESPONDING TREE

FIG. 3C



APPROXIMATED MODEL AND MERGED TREE

FIG. 3D



APPROXIMATED MODEL AND MERGED TREE

FIG. 4

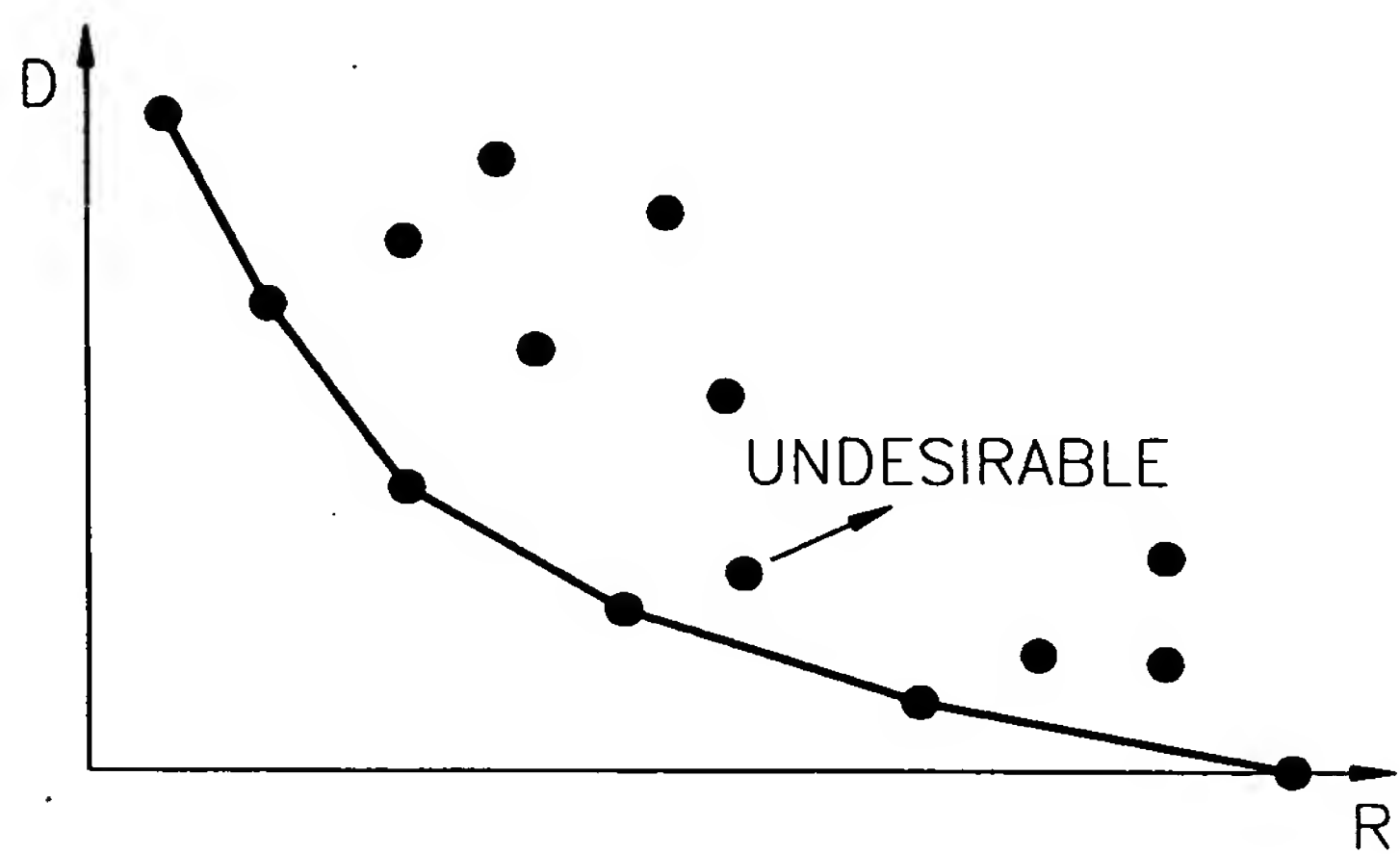


FIG. 5

Continue flag	Position	SOP("S" or "P")	DIB (Detailed Information Bits)
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FIG. 6

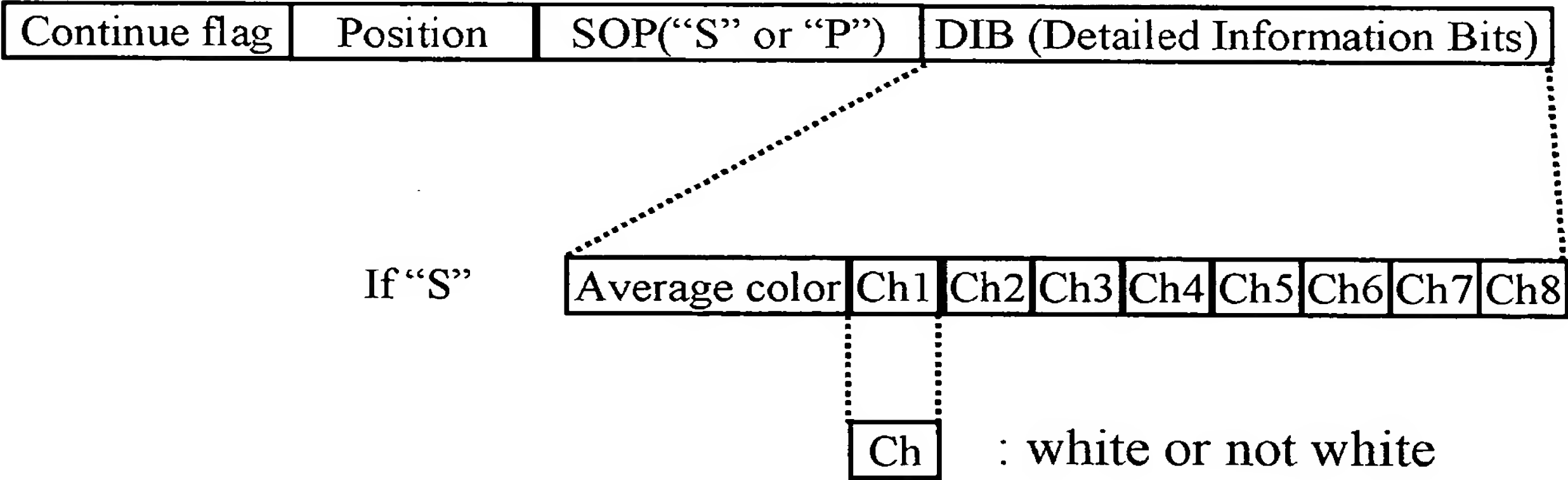


FIG. 7

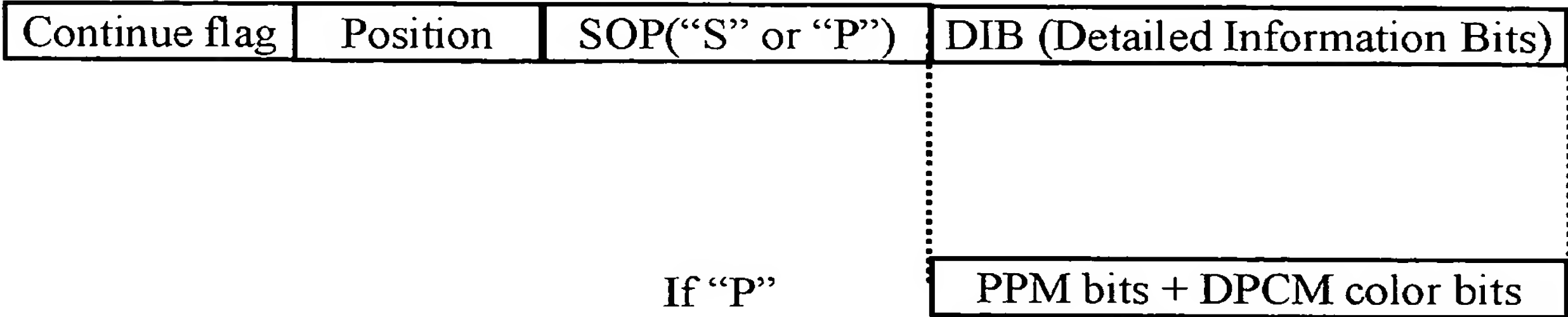
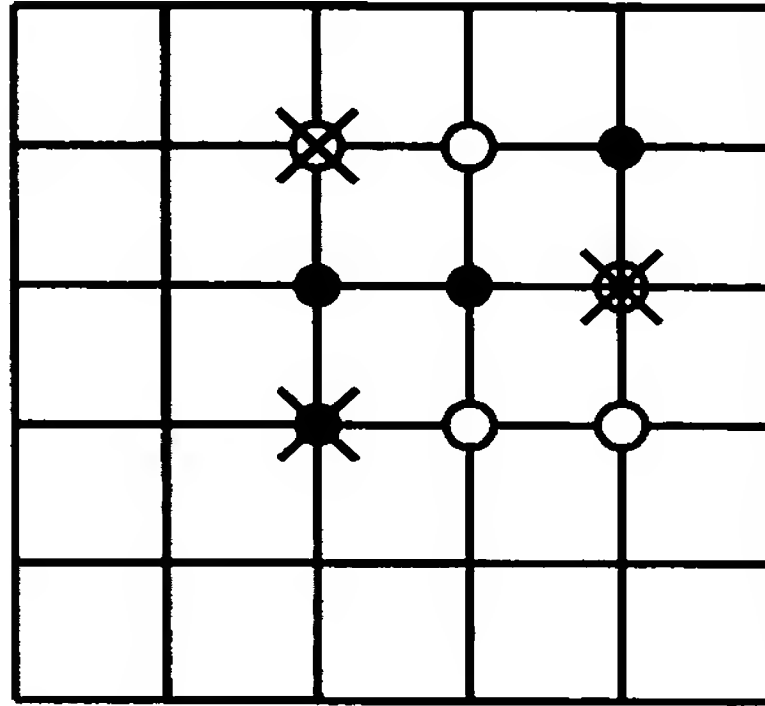
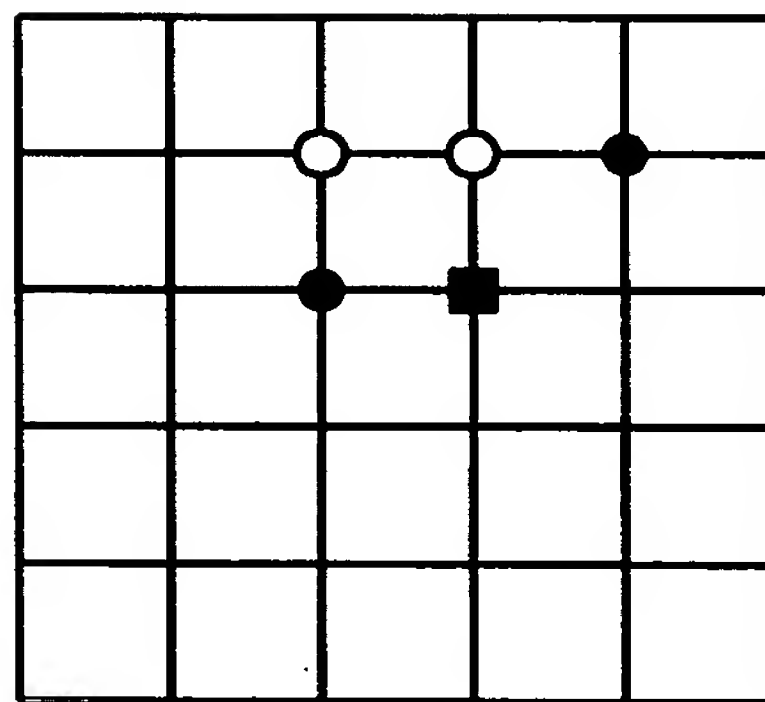


FIG. 8A



DEPTH=k-1

FIG. 8B



DEPTH=k

FIG. 9

(a)~(e) resolution: 256x256x256

(f)~(h) resolution: 512x512x512



(a) angel



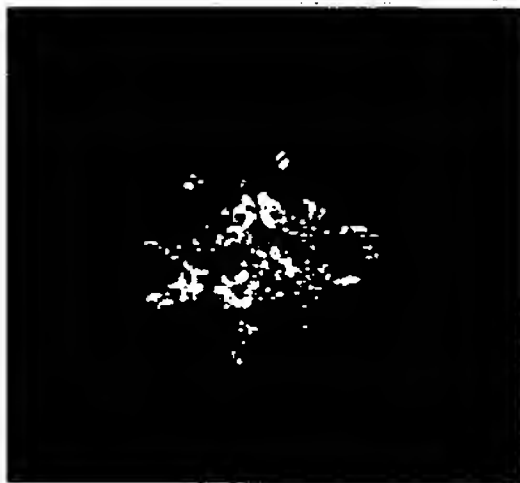
(b) avatar



(c) dog



(d) plane



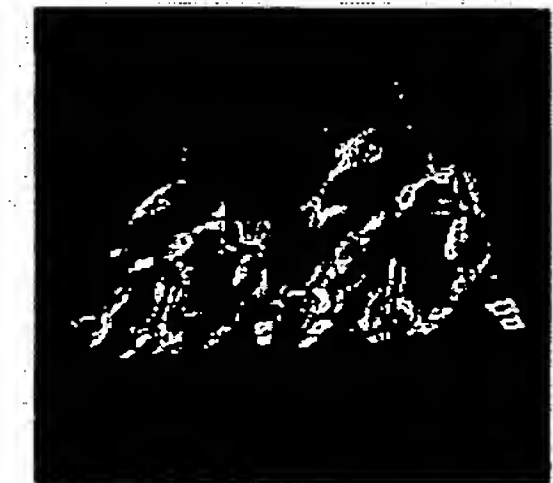
(e) flower



(f) white star



(g) fighter



(h) robots

FIG. 10A

PRESENT INVENTION COMPARED WITH ORIGINAL BINARY DATA

	DEPTH			COLOR			TOTAL		
	P	O	R	P	O	R	P	O	R
Angel	34,893	306,218	0.11	238,748	722,046	0.33	273,641	1,028,264	0.27
Avatar	6,396	87,184	0.07	35,813	64,944	0.55	42,209	152,128	0.28
Dog	11,501	111,262	0.10	64,312	137,178	0.47	75,813	248,440	0.31
Plane	5,254	96,946	0.05	51,256	94,230	0.54	56,510	191,176	0.30
Flower	17,804	98,469	0.18	65,016	98,799	0.66	82,820	197,268	0.42
WhiteStar	75,937	1,061,676	0.07	441,442	806,082	0.55	517,379	1,867,758	0.28
Fighter	38,108	906,308	0.04	275,853	573,030	0.48	313,961	1,479,338	0.21
Robots	105,458	1,285,188	0.08	669,236	1,141,350	0.59	774,694	2,426,538	0.32

FIG. 10B

PRESENT INVENTION COMPARED WITH A COMMERCIAL TOOL (WinZip)

	DEPTH			COLOR			TOTAL		
	P	W	R	P	W	R	P	W	R
Angel	34,893	150,853	0.23	238,748	402,118	0.59	273,641	552,971	0.49
Avatar	6,396	14,407	0.44	35,813	46,475	0.77	42,209	60,882	0.69
Dog	11,501	34,256	0.34	64,312	112,734	0.57	75,813	146,990	0.52
Plane	5,254	9,771	0.54	51,256	47,245	1.08	56,510	57,016	0.99
Flower	17,804	30,243	0.59	65,016	80,721	0.81	82,820	110,964	0.75
WhiteStar	75,937	250,174	0.30	441,442	725,630	0.61	517,379	975,804	0.53
Fighter	38,108	173,124	0.22	275,853	414,241	0.67	313,961	587,365	0.53
Robots	105,458	330,815	0.32	669,236	939,136	0.71	774,694	1,269,951	0.61

FIG. 11

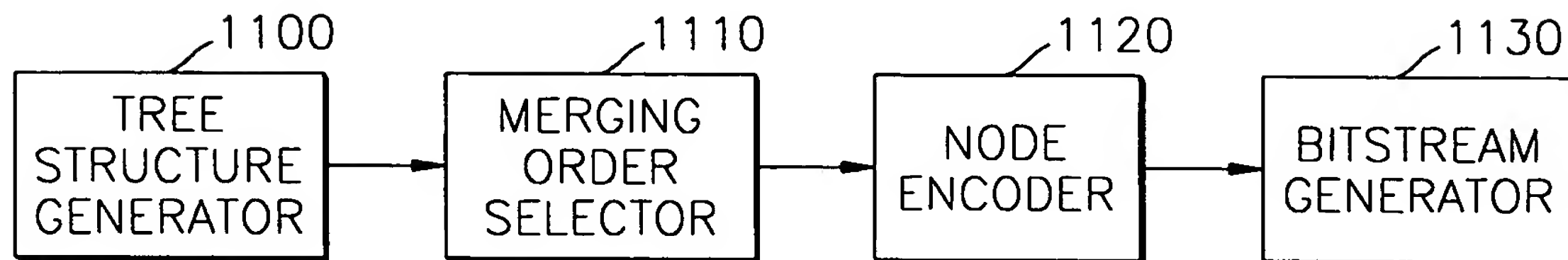


FIG. 12

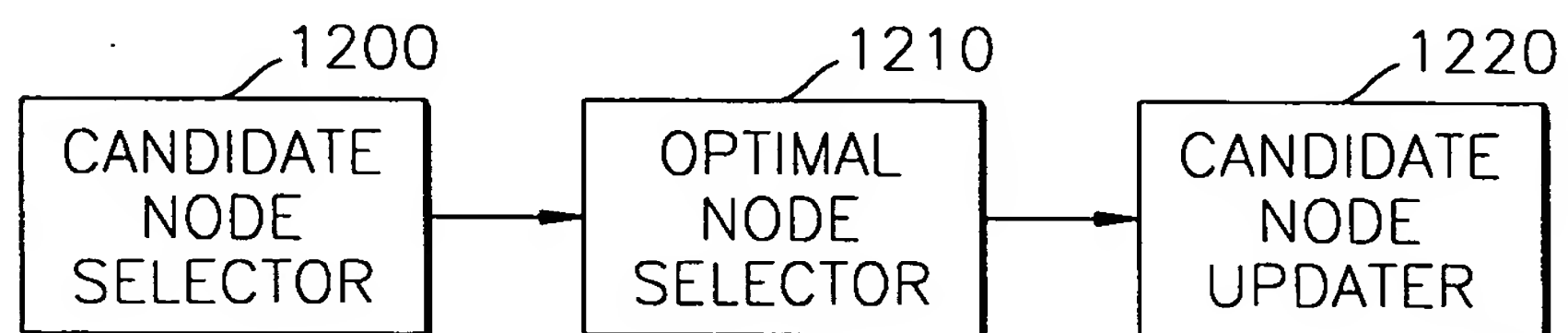


FIG. 13

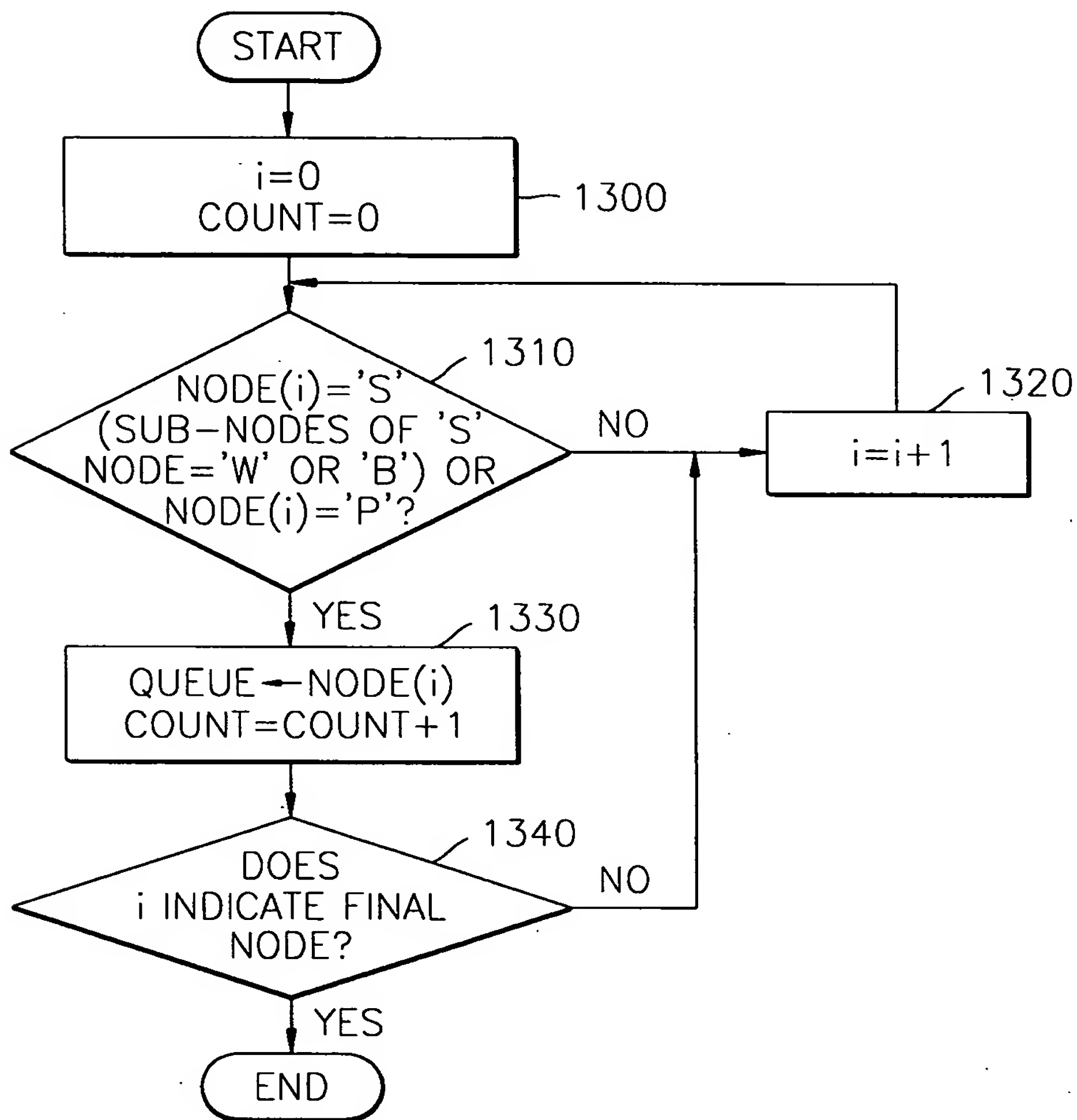


FIG. 14

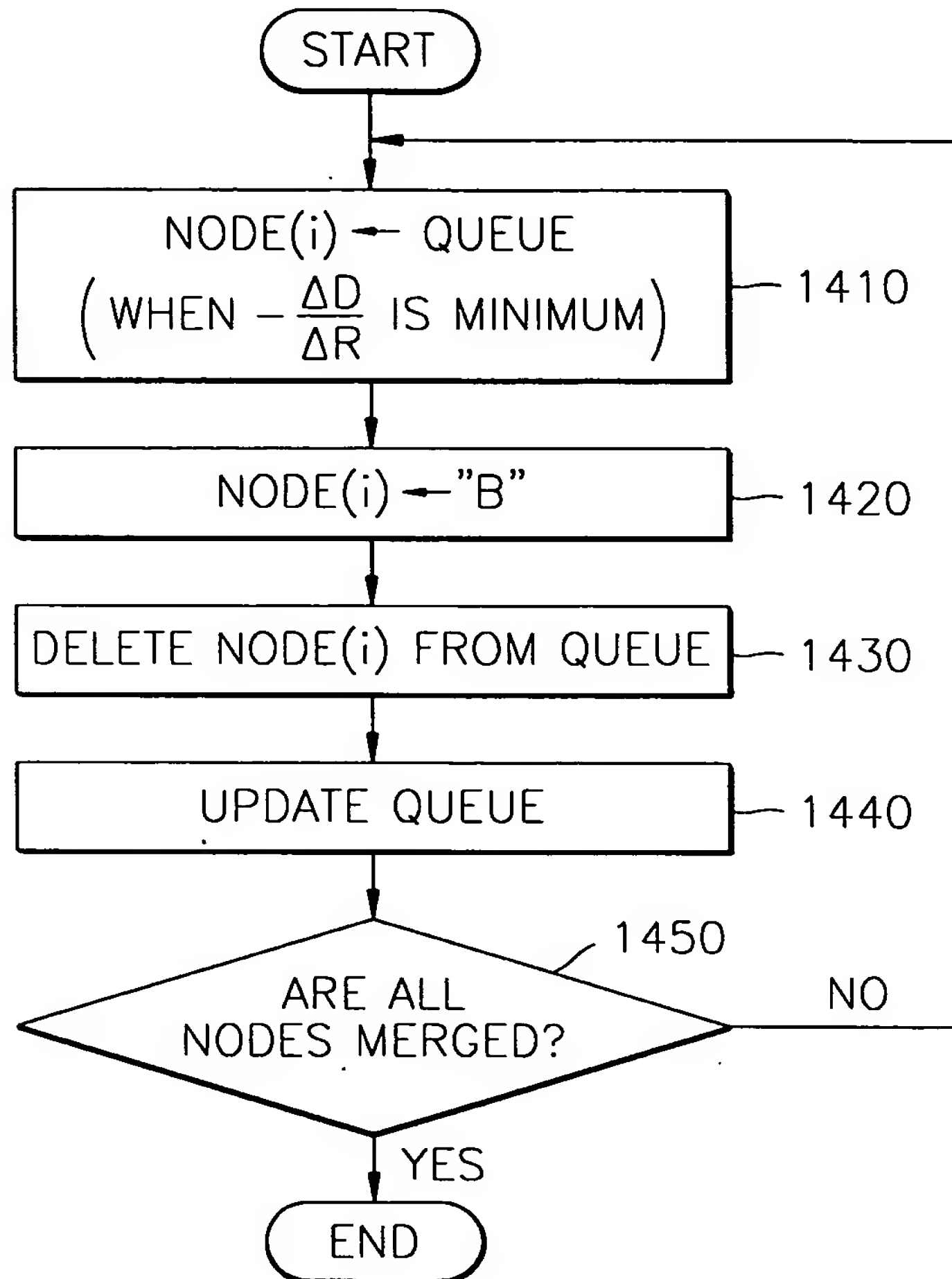


FIG. 15

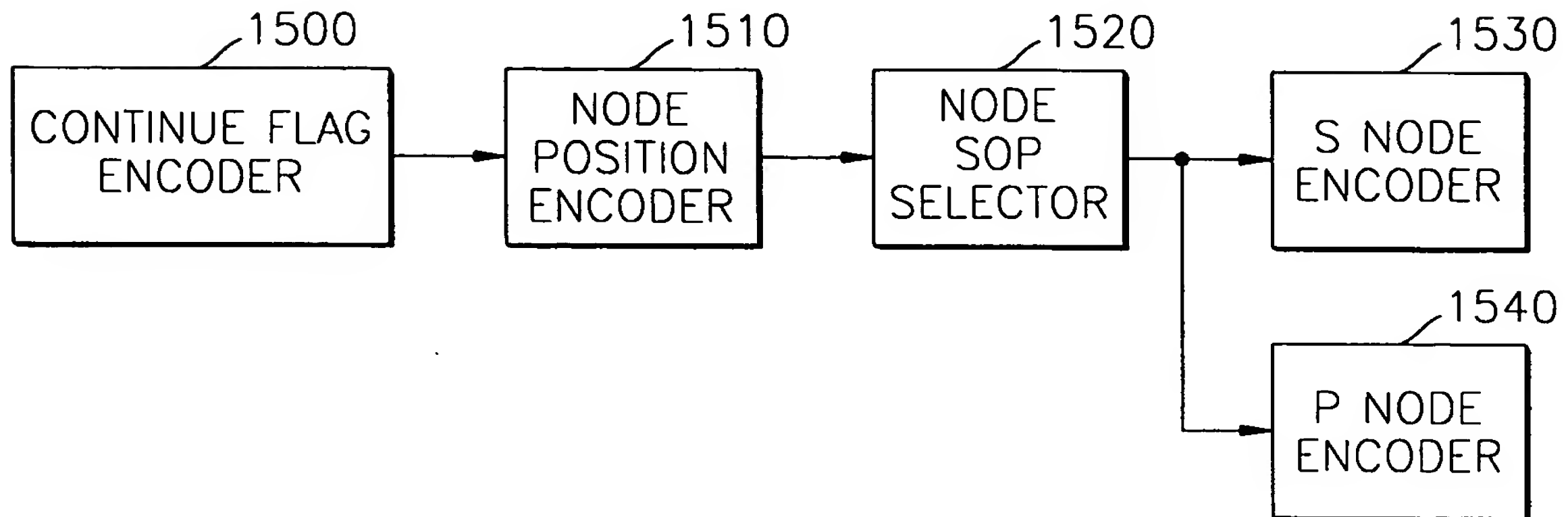


FIG. 16

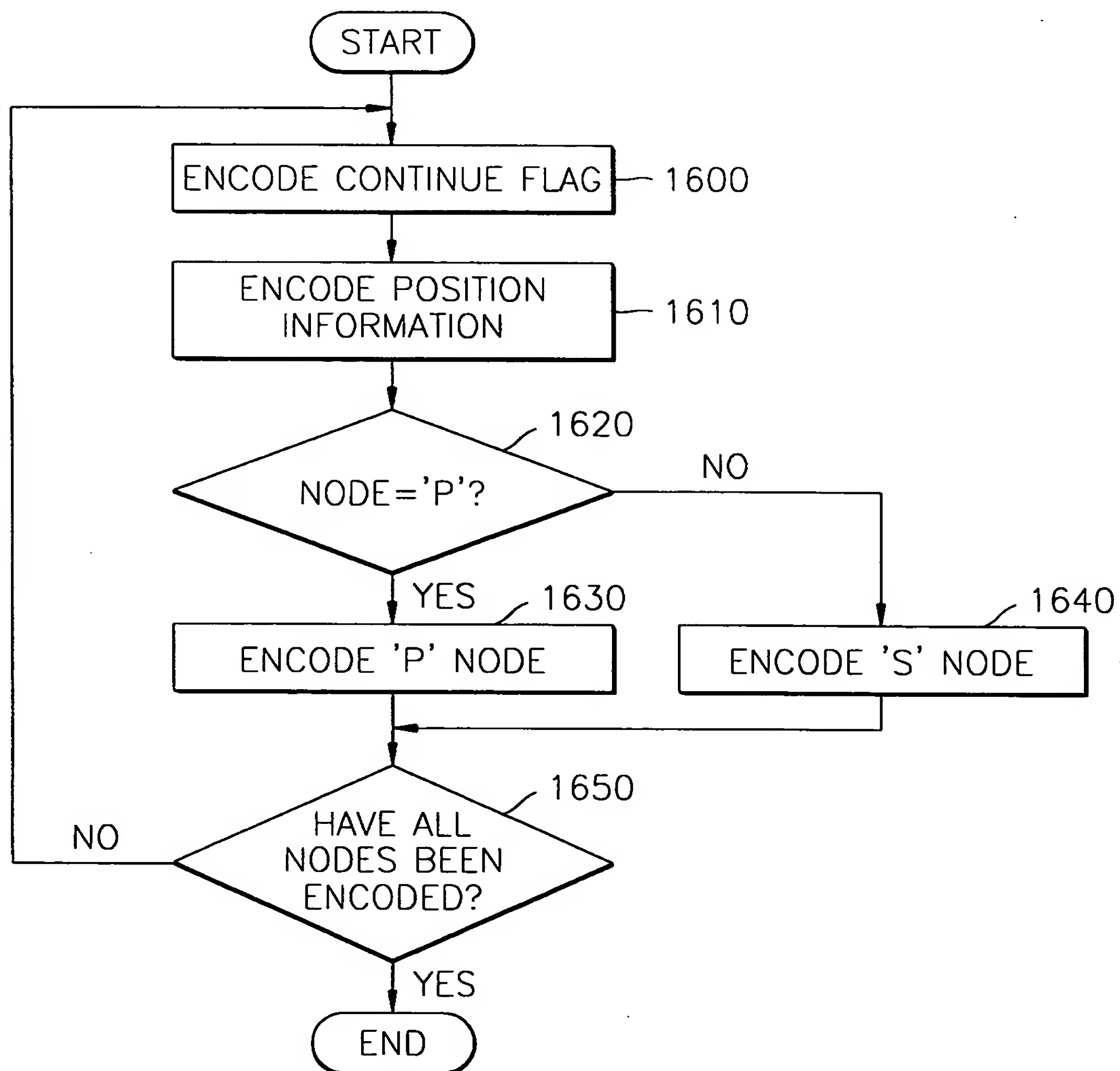


FIG. 17

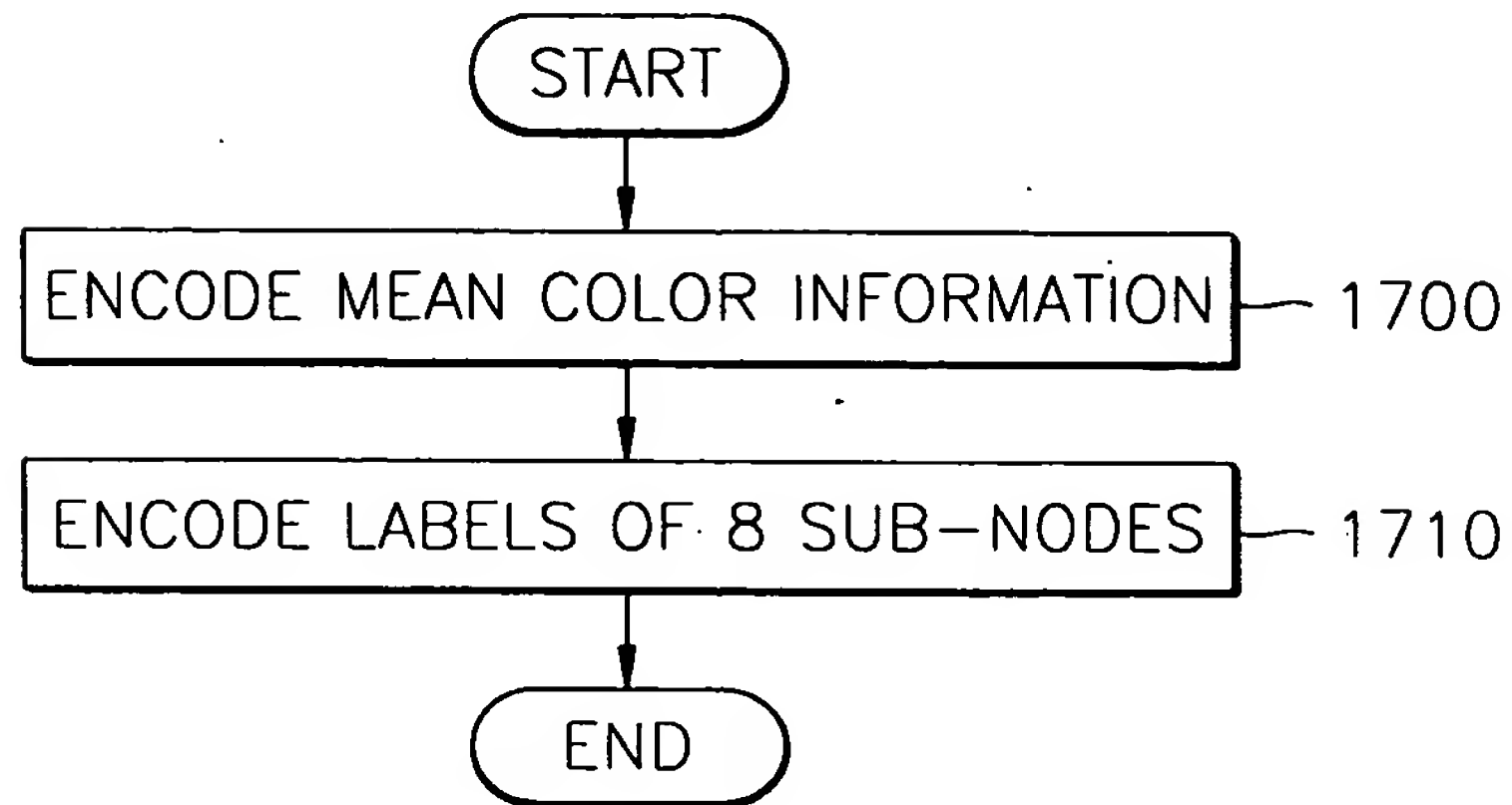


FIG. 18

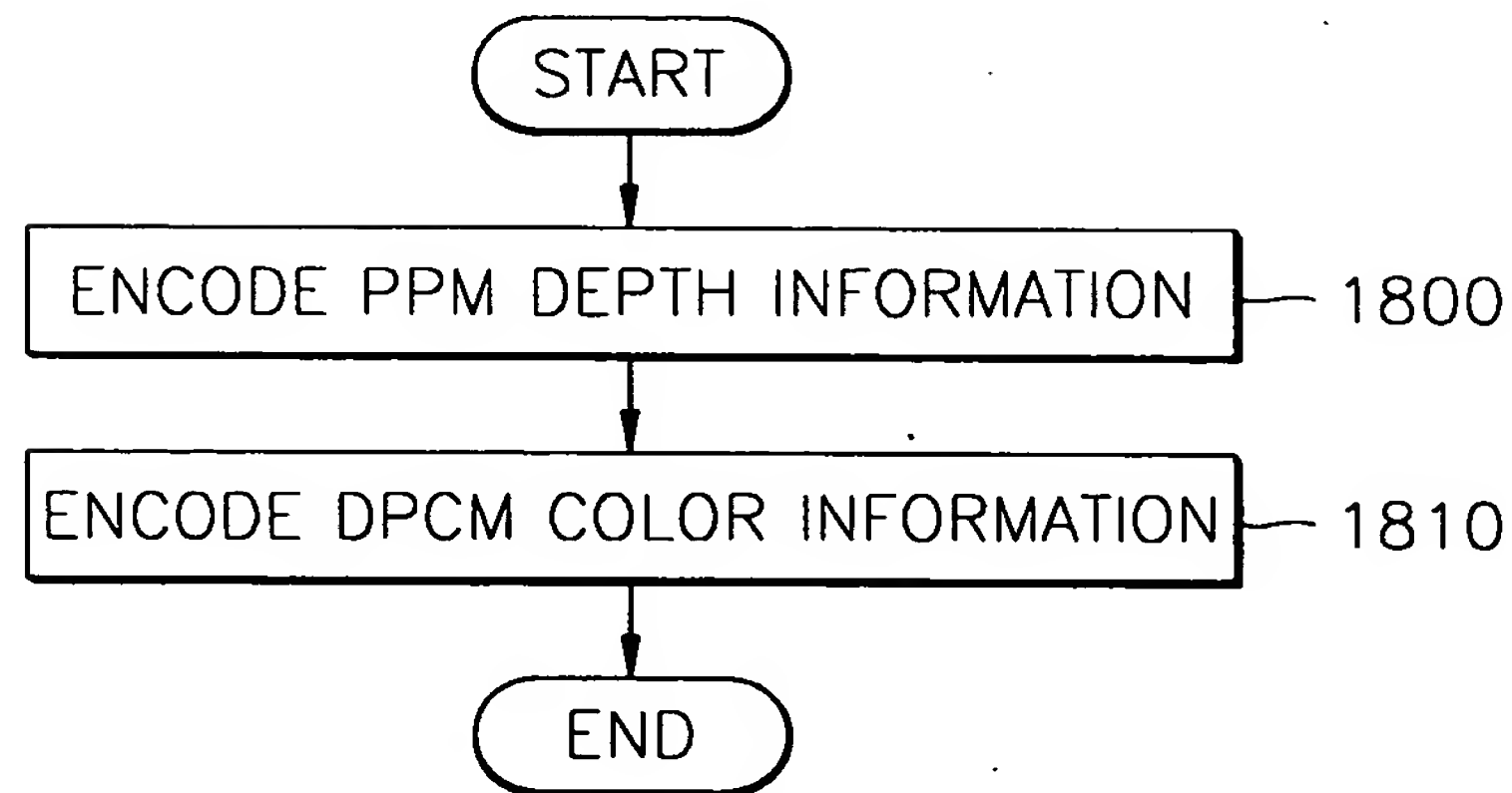


FIG. 19

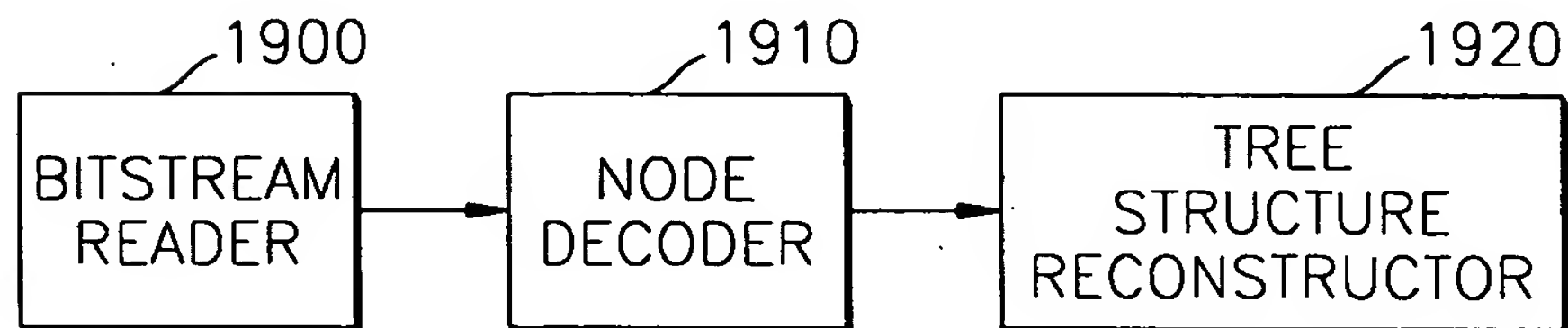


FIG. 20

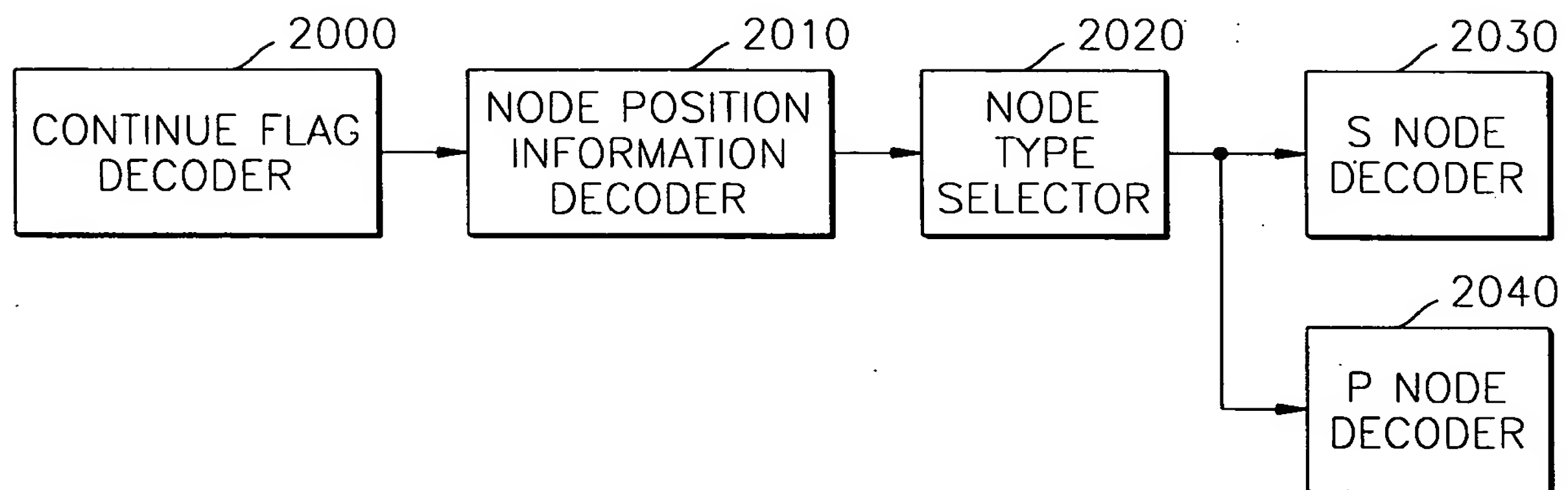


FIG. 21

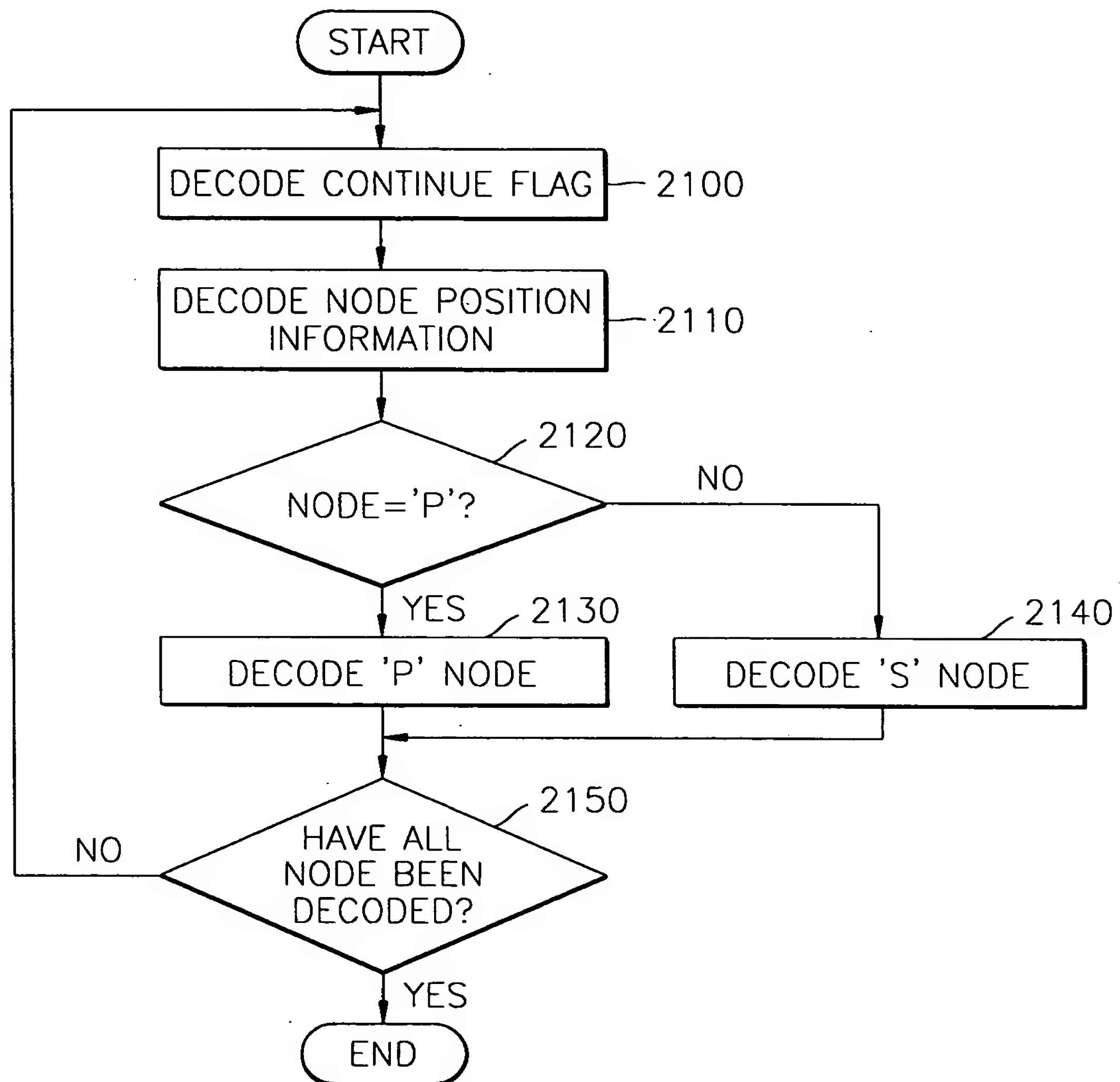


FIG. 22

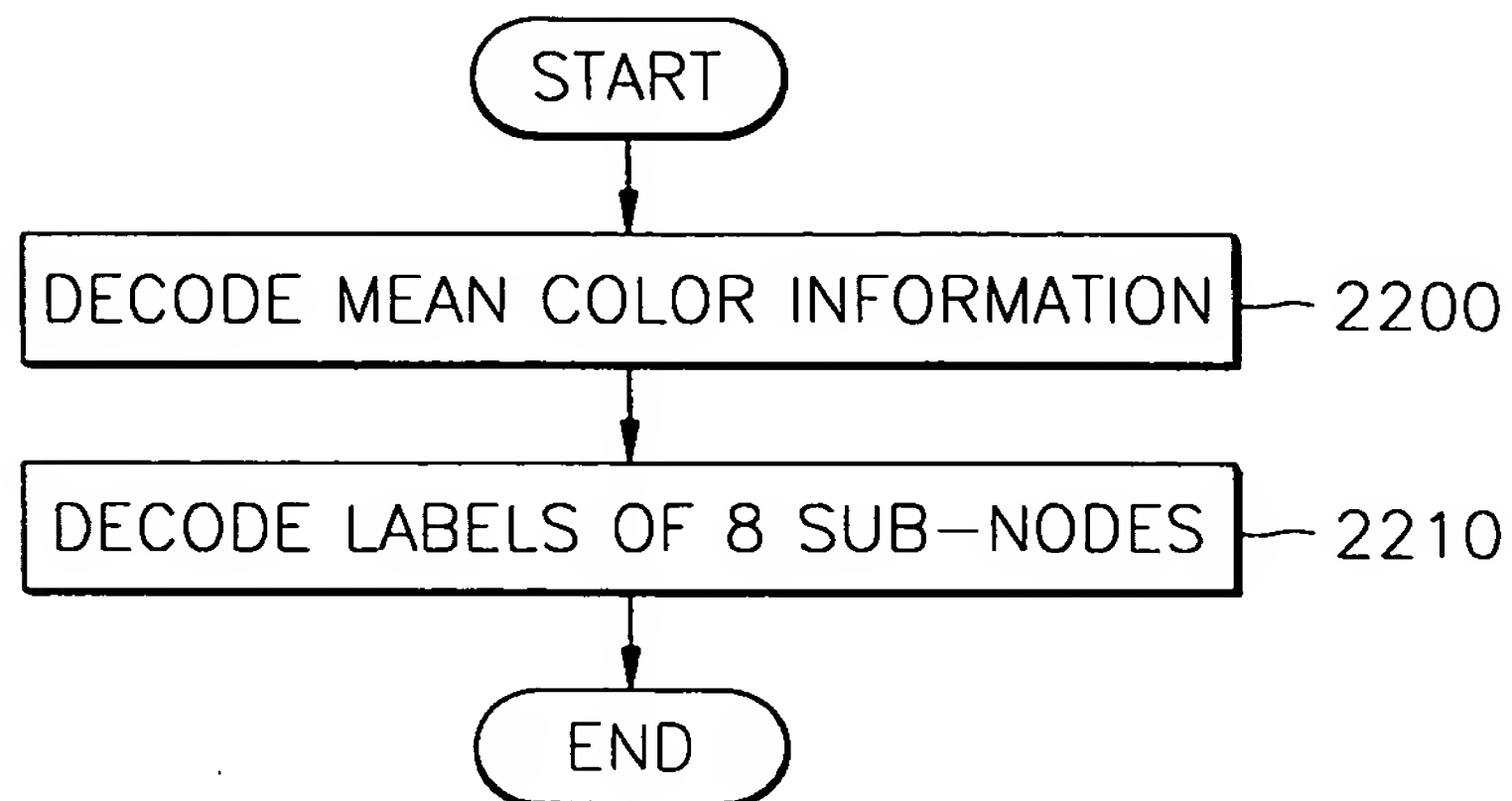


FIG. 23

